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Docket No.: 1293.1925

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Jae-seong Shim et al.

Serial No. 10/667,670

Group Art Unit: 2819

Confirmation No. 9099

Filed: September 23, 2003

Examiner: Patrick G. Wamsley

For: DATA MODULATING METHOD AND APPARATUS, DATA DEMODULATING METHOD  
AND APPARATUS, AND CODE ARRANGING METHOD

**RESPONSE TO RESTRICTION REQUIREMENT**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

This is responsive to the Office Action mailed December 21, 2004, having a shortened period for response set to expire on January 21, 2005, the following remarks are provided and reconsideration is respectfully requested.

I. Provisional Election of Claims Pursuant to 37 CFR §1.142

Applicants provisionally elect **Group I, claims 1-34 and 75-77**, in response to the preliminary restriction requirement set forth in the Office Action.

II. Applicants Traverse the Requirement

Insofar as Groups II through IV are concerned, it is believed that (Group II) claims 35-36 and 78; (Group III) claims 37-40 and 79-80; and (Group IV) claims 81 and 82 are so closely related to elected claims 1-34 and 75-77 that they should remain in the same application. The elected claims 1-34 and 75-77 are directed to minimum DC level coding and (Group II) claims 35-36 and 78 are drawn to demodulation with descrambling; (Group III) claims 37-40 and 79-80 are drawn to conversion of m-bit source data into n-bit codes; and (Group IV) claims 81 and 82 are drawn to coding based upon run length limits. While it is noted that the Examiner has

identified different sub-classifications for the various method claims, it is noted that the class is the same for all of the identified Groups. Searches are rarely limited to a single subclass and most patents are classified in multiple subclasses. Here the subject matter is closely related and each of the claims recites limitations relating to run length limits and m and n bit data and codes. See for example claims 23 and 36 from Groups I and II, respectively. It is believed, moreover, that evaluation of all the sets of claims would not provide an undue burden upon the Examiner at this time in comparison with the additional expense and delay to Applicants in having to protect the additional subject matter recited by the Groups II through IV claims by filing multiple divisional applications.

MPEP §803 sets forth the criteria for restriction between patentably distinct inventions. (A) indicates that the inventions must be independent (see MPEP §802.01, §806.04, §808.01) or distinct as claimed (see MPEP §806.05-806.05(i)); and (B) indicates that there must be a serious burden on the Examiner if restriction is required (see MPEP §803.02, §806.04(a)- §806.04(i), §808.01(a) and §808.02). The Examiner has not set forth why there would be a serious burden if restriction is required.

Even if the Examiner considers claims 1-34 and 75-77 to be a separate invention from claims 35-40 and 78-80, the Applicants respectfully request the Examiner to consider claims (Group I) claims 1-34, 75-77; and (Group II) claims 35-36 and 78 together because of the close relationship of these claims as discussed above. For example, each of these claims recites limitations relating to run length limits and m and n bit data and codes.

### III. Conclusion

Upon review of references involved in this field of technology, when considering that the method recited by the (Group II) claims 35-36 and 78 are drawn to demodulation with descrambling; (Group III) claims 37-40 and 79-80 are drawn to conversion of m-bit source data into n-bit codes; and (Group IV) claims 81 and 82 are drawn to coding based upon run length limits, and elected claims 1-34 and 75-77 are directed to minimum DC level coding, and when all of the other various facts are taken into consideration, it is believed that upon reconsideration of the Examiner's initial restriction requirement, all of the pending claims should be examined in the subject application.

In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition for allowance.

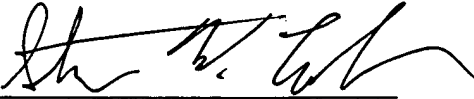
If any further fees are required in connection with the filing of this Amendment, please charge the same to our deposit account number 503333.

Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney.

Respectfully submitted,

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Date: 1/15/2005

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